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ABSTRACT

This paper reviews three studies which illustrate the use of two different techniques of behavior modification to control aggression in preschool children in classroom situations. The first technique demonstrated the use of "time-out" as a mild punishment procedure. The teacher changed events following aggression by briefly removing the child from reinforcing experiences. This procedure was effective in reducing aggressive behaviors of two 4-year-old boys in two different studies, one conducted by Busby, Thomson and LeBlanc, and the other by Holmberg, Kastl, Hursh and Colley. In the former study, after attack behavior was decreased, this decrease was maintained when the time-out technique was cintingently applied to other behaviors. In the latter study, an increase in the subject's peer interactions was shown when his aggressive behaviors were low. In a less direct approach, Pinkston, Reese, Baer, and LeBlanc used extinction and reinforcement to control aggression. Teachers ignored the 3 1/2-year-old subject's aggressive behavior and gave attention to the child who was the object of the aggression. Later, when the subject exhibited nonaggressive behavior, he received social reinforcement. Return to the no-treatment condition demonstrated the effect of the treatment procedure, in that the behavior increased each time there was a no-treatment procedure in effect. It is conjectured that if the subject acquired the necessary skills to interact with his peers, peer attention would become the reinforcer for nonaggressive behavior. (Author/BF)

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PROBLEMS IN AGGRESSION: THREE CASE STUDIES

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PROBLEMS IN AGGRESSION: THREE CASE STUDIES

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Aggressive behavior may be considered a behavior that is acquired, a behavior that is conditioned in the process of a child's interacting with adults and peers. Within this interaction it is the immediate consequence that determines whether or not the response being emitted by the child will be strengthened. For example, if a child's whines and demands for a toy are consistently followed by the adult giving the child the toy he demanded, then demanding and whining are likely to increase. If on the other hand, when the child whines and demands a toy and the adult withdraws attention and does not give the child the toy, this behavior is likely to decrease.

Aggression is considered a socially undesirable behavior, (though this of course is a value judgement). Human beings learn how to be aggressive, they also learn to whom and under what conditions they can display aggression.

There are many social factors that enhance the learning and maintenance of aggression. First in maintaining aggressive behavior is the culture aspect and the belief that a certain amount of aggressive behavior is expected. Second, children and adults may learn to imitate behavior from models of violence mediated by television, newspapers and movies. Third, aggressive behavior is reinforced in our society if it is not to far out and antisocial, by peers and parental approval and often by success in the business world.

In a preschool where teachers plan activities around specific goals, a child who emits inappropriate behavior frequently would be considered a child with some type of behavioral problem. The child might display

inappropriate aggressive behavior, that is he might be very demanding and physically attack peers. The child might be violent, that is he might be destroying equipment, throwing materials, hitting materials with objects, or the child might be disruptive and disturbing to other preschool children when he is clapping his hands, yelling loudly or stomping his feet while others in the classroom are constructively engaged in activities. And possibly the child may be considered somewhat dangerous, that is, he may be hitting, pushing, biting, choking or pulling on another child. Should the child display one or more of these behaviors frequently during the day, he would likely be considered a problem by the teacher. Uncorrected the child might be dangerous to himself and other children and possibly miss out on the opportunity for pleasant interaction and other learning experiences.

Should this be the case the teacher would then begin to assess the behavior. In using behavior modification techniques she would observe first the child to see when and how often the behavior did occur. Simultaneously and with a careful eye, she would also observe what follows the aggressive behavior. Does the behavior succeed in his getting the toy he wants, does it result in teachers running to him to tell him to stop? In other words, what has been the pay off (what was the reinforcer) for the child to act in such a way?

After observing the rate of behavior and the existing consequences, the teacher may then proceed to change those consequences, in other words to change those events that follow aggression. She may do this by briefly removing him from reinforcing experiences (a time-out) either by removing other children and teachers (possible social reinforcers) from direct contact with the child.

A study conducted by Busby, Thomson and LeBlanc prompted the questions of: Which behaviors should you change? and By changing the child's behavior what other responses are we eliminating when we control aggressive behavior? The study showed there is a fine line between aggressive behaviors that are socially acceptable, such as, the child's defense of his property and aggressive behaviors that are socially unacceptable such as taking possession of someone else's materials.

The subject was Keith, a four year old boy, who upon entering preschool yelled and screamed at his peers, called them names, hit them, took objects from them and threw materials. Tranquilizers were once prescribed to control his behavior but were discontinued prior to the beginning of the study. The three categories of behavior observed in this study were: Physical attacks on other children; name-calling; and making demands of children. The physical attacks included shoving, hitting, kicking or choking peers or throwing them to the ground. Name-calling included any derogatory name addressed to either adults or peers. Demands consisted of verbal statements such as, "Give me that!" or "Shut up" and rough removal of materials from other children. A subcategory of demands was incorporated into the study later. Since teachers noted that not all of Keith's demands were inappropriate, that is, demands emitted in defense of his property were very appropriate. It also seemed desirable to allow Keith to come in contact with peer behaviors resulting in response to his demands. Therefore, demands which were initiated by Keith and resulted in his peers either crying, not responding to Keith, or pulling away from Keith were recorded separately to be later treated.

Two types of time-out were used to decrease these aggressive behaviors.

One consisted of removing Keith from the play area following an aggressive act and placing him on a chair, with instructions to remain until told he could return to play. This was referred to as chair time-out. If Keith refused to sit on the chair or left it before the end of one minute when permission was granted, Keith was placed in a small, empty but lighted room and the door was closed. This was referred to as room time-out. Keith remained in the room for a period of three minutes after the door was closed or three minutes from the end of his last tantrum in the room. During the time-out period no teacher attention was given for aggression.

Insert Figure 1

The three graphs indicate the number of times the aggressive behavior occurred per each seventy minutes period of observation for attacks, name-calling and demands. There were seven days of baseline during which the teachers usually attended to these behaviors since they disrupted the classroom. On the eighth day, the chair and room time-out procedures were applied immediately to those behaviors in the attack category only. This resulted in attacks immediately decreasing to near zero, while name-calling and demands, which were not being treated, remained at their previous level. Attacks remained at the near zero rate throughout the seven days of this condition. When the time-out contingency was removed from these behaviors on the fifteenth day of the study, baseline conditions were again in effect for all behaviors, (that is teachers attended to these behaviors). During this time Keith's attacks remained at the near-zero rate throughout the remainder of the study even though time-out was never again contingently

applied following their few occurrences. However, during the five day return to baseline condition, for attacks, demands, and name-calling, which had no previous contact with contingent time-out remained the same or increased slightly.

On the twentieth day of the study, time-out was contingently applied to name-calling. It was at this point that the subcategory of demands was added to the observational recording (separating legitimate and aggressive demands). Time-out was equally effective for immediate reducing name-calling. When time-out was used as a treatment for aggressive demands the last five days of the study, the contingencies were removed from the name-calling behaviors. However, neither name-calling nor demands returned to the original rate when there wasn't a chair, or a room time-out contingency. Critically also the socially acceptable demands were not changed.

Insert Figure 2

This graph demonstrates that teacher attention to non-aggressive behavior remained fairly constant across all conditions, which supports the demonstration that it was time-out from classroom activities which successively brought the behaviors in each of the categories under control.

Holmberg, Kastl, Hursh, and Colley, used chair time-out to control aggressive behavior also. The subject was Dan a four year old boy enrolled in a preschool class with fifteen other children. Dan wore braces to his knees on both legs and was mobile on his feet only when a wooden toy cart was available for him to push (and to support him). The upper part of his body, (trunk, arms, hands) were quite strong. When on the floor Dan could

move himself rapidly by pulling himself with his arms. Dan's verbal skills were well developed, in that he had a large vocabulary and good enunciation.

While Dan's strength in his upper body and his verbal skills were generally admired characteristics they also were the facilitators for some negative behaviors, such as, squeezing other boys and girls to attain a block or truck that he wanted. This became most uncomfortable to the children. Throwing blocks, toy animals, and cars across the room was another annoying behavior. Scratching teachers when they would intervene---Hurt. Loud shouting at teachers such as, "I don't have to do that." or "NO, NO, NO, you can't make me do that." produced chaos in the classroom.

The code for observing Dan included the following behaviors and were recorded as instances of aggression. The behaviors were defined as: Yelling, screaming "stupid," "dummy", or similar words to a teacher or a child. Also recorded as aggressive behavior were shouts of "No, you can't tell me what to do," and "Big boys don't have to do that," when he was asked to do something that he really must do. Things he really had to do were:

> to give something back to another child which he had taken away,
>
> or
>
> to stop using a piece of equipment which he had used inappropriately.
>
> and
>
> to use materials or equipment in appropriate ways.

Throwing objects, pushing other children, hitting other children or teachers, and scratching were also included in the definition of Dan's aggressive behaviors.

Insert Figure 3

After four days of observation, and noting that the rate of aggression was increasing, it was then decided that the teachers would begin a procedure of applying a negative consequence to verbal and physical outbreaks. During this time whenever Dan emitted any of the defined behaviors he was taken as quickly as possible to a chair and told that when he threw things or grabbed people he would have to sit in the chair quietly. After one minute of quiet sitting Dan was told that he could return to his activity. If at any time Dan shouted verbal outrages during the time on the chair, the one minute began again when he stopped. The chair was far enough from any supporting objects (such as, his cart or a table) that he could not get up from the chair.

The first day of introducing the chair consequence was a day to end all days. Over eight minutes of aggression, some of which included being placed on the chair, seemed like a very long eight minutes to the teachers. However, the rate decreased and only two other days saw any aggressive outbursts and those were five and seven seconds in length. After a week of no aggression, the teachers planned <u>not</u> to use the chair time-out to see whether it really made a difference. Now aggression would <u>not</u> be followed by the chair consequence. An aggressive act did not occur until six school days later. A week of spring vacation also intervened during this time. Not until the fourth day after vacation did Dan emit any aggressive behavior. On that day there was almost two minutes worth. Three more days occurred with aggression all of half a minute duration.

At this point in time Dan was scheduled to leave school in two weeks in order to have major surgery done, which if successful would enable him to walk. This surgery had been scheduled two times earlier and postponed each time. Since this was the "magical" third time and since it was desired that Dan be shaped up for the hospital nurses, the chair time-out procedure was reinstated. Three days of twenty, ten and ten seconds of aggression occurred and then all was quiet. The surgery was again postponed but all was peaceful in the preschool during the last week.

During this time period data was also being collected on Dan's peer interaction. There appears to be a decrease in the means of peer interaction during the no chair conditions. During these times Dan was an undesirable playmate and the data verify that when Dan was less aggressive his peer interaction increased.

Another study using a less direct approach to control aggression was done by Pinkston, Reese, Baer and LeBlanc.

The subject for this study was an active three and a half year old boy named Cain. His language skills were highly developed and he frequently held long conversations with the teachers in his preschool class. However, his attempts to play with the other children did not appear to be successful, although he made frequent attempts to do so. It was further noted that he would often stand on the outer edge of the play area for a few minutes with his fists clenched, then move into the area and attack other children, apparently indiscriminately. Teachers frequently tried to stop these attacks, but were bitten, scratched, or hit by Cain, and often told, "I hate you!" His parents had also observed this behavior and expressed concern to teachers. Therefore it was agreed that it was

necessary to reduce his aggressive behavior and to facilitate his interaction with peers.

For this study aggression was defined as either a verbal or motor attack by Cain. Motor aggression included specific motor aggressive behaviors to peers such as choking, head pushing, biting, or threatening to bite, pinching, poking finger or object into the body of a peer, hitting, and kicking. Verbal aggressive behavior was defined as any verbalization which threatened, forbade an activity, or indicated a negative judgement about a person, their relatives or their property. Examples of these behaviors were statements such as "I don't like you," "You are dumb," "This is our house, you can't play here," "My mother is going to hit you with a big stick."

Insert Figure 4

During baseline Cain was observed for seven days. Teachers attended to his negative behavior toward peers as they normally would. Baseline data showed that a high percentage of Cain's interaction with peers was aggressive. The mean during baseline was thirty percent. From these data it was decided to start a treatment procedure.

During the treatment procedure the teachers gave no attention to Cain's aggressive behavior except when necessary to separate Cain from his target. During this time teacher attention was directed to the peer against whom Cain had aggressed. Teacher attention took the form of statements such as, "I am sorry that happened to you, Joe, why don't you play with this nice truck." To avoid social deprivation the teachers attended to Cain's

other positive behaviors. A record was kept of which children received teacher attention after Cain's aggression to avoid systematically reinforcing whining or baiting behaviors in these children.

The procedure was then reversed to the original baseline condition in order to determine whether or not ignoring Cain and attending to the victim was the factor that decreased his aggressive behavior. This procedure was repeated twice leaving the subject in the treatment condition.

The graph on aggressive behavior shows that Cain's aggression was promptly reduced by the treatment procedure of ignoring Cain and attending to the victim. The baseline showed a high initial rate of aggressive behaviors, averaging twenty-eight percent of the total peer interaction. When the treatment (labelled extinction in the graph) was instituted, a downward trend in aggression resulted. On the last day of this condition aggression averaged only one percent. The behavior was recovered at a high rate in the reinforcement condition. When the treatment was again instituted a rapid downward trend resulted. Reinforcement again recovered aggression against peers. During the final condition aggression to peers decreased to a final range of between zero percent and five percent. After one month, a post check indicated aggression was only three percent of Cain's interactions. This level of aggression was considered by his parents and teachers to be acceptable for a healthy active boy.

Since the data showed that lowering aggressive behavior did not increase Cain's ability to interact with peers the study was <u>successfully</u> extended to include teacher attention to reinforce positive social interactions.

In summary two different techniques have focused on controlling aggressive behavior. The first technique demonstrated the use of time-out as

a mild punishment procedure, punishment meaning the removal of a reinforcer not the application of physical force. This procedure was effective in reducing Keith's and Dan's aggressive behaviors. By the end of the treatment condition both Keith and Dan were much more pleasant children to both teachers and peers. Evidence was shown in Dan's case by the increase in peer interaction when his aggressive behaviors were low. In Keith's case the decrease in attack behavior continued when time-out was contingently applied to other behaviors.

The second technique used extinction and reinforcement to control aggressive behavior. Cain's aggressive behavior was put on extinction in that the teachers ignored Cain's aggressive behavior by giving teacher attention to the child towards whom he had aggressed. Later when Cain emitted a non aggressive behavior (an incompatable response) he received social reinforcement. Return to the nontreatment condition demonstrated the effect of the treatment procedure; in that the behavior increased each time there was a no treatment procedure in affect. Perhaps once Cain acquired the necessary skills to interact with his peers that (peer attention) became the reinforcer for his non aggressive behavior.

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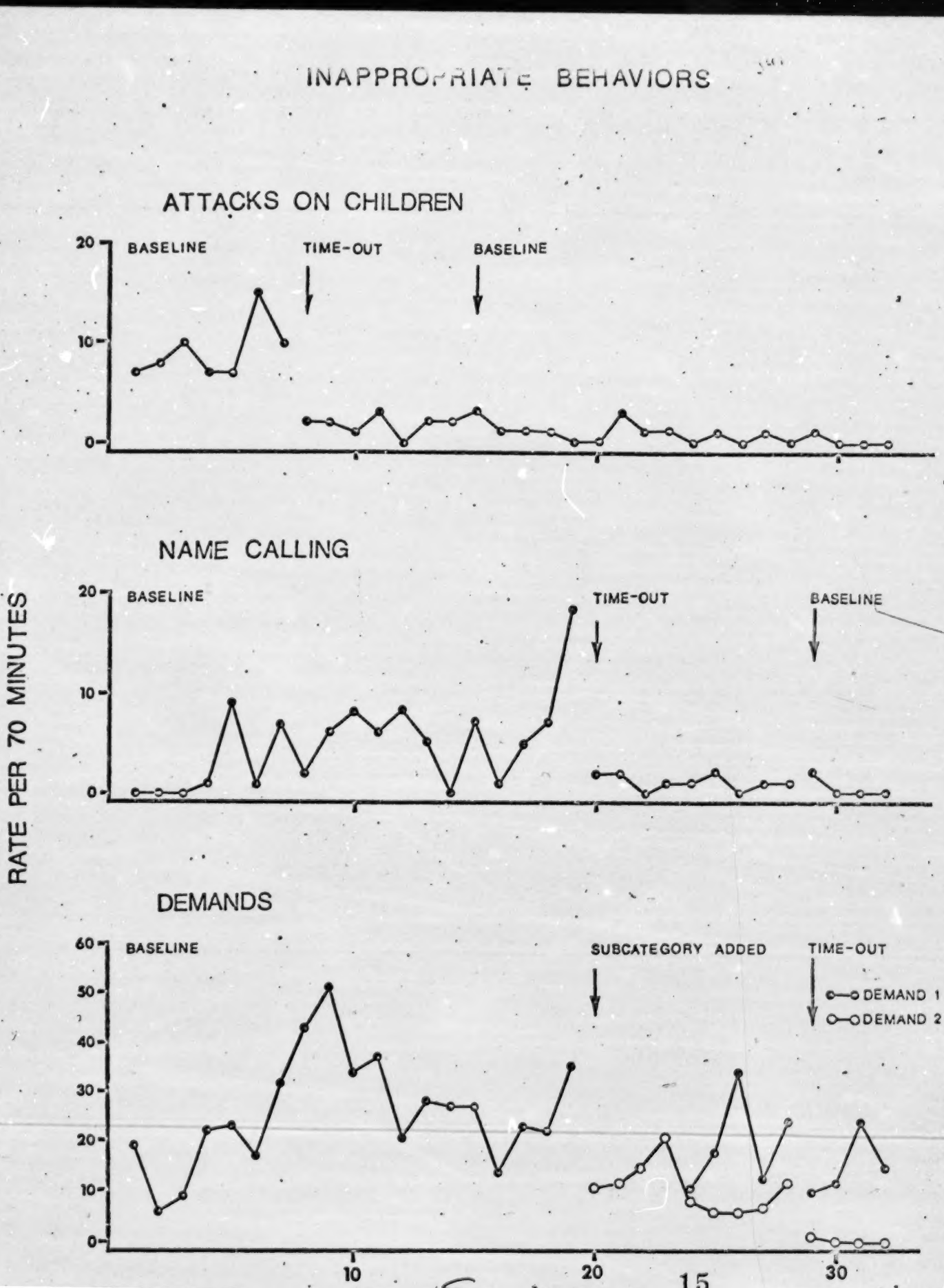

INAPPROPRIATE BEHAVIORS
ATTACKS ON CHILDREN
BASELINE
TIME-OUT
BASELINE
20
10
0
NAME CALLING
BASELINE
TIME-OUT
BASELINE
20
10
0
RATE PER 70 MINUTES
DEMANDS
BASELINE
SUBCATEGORY ADDED
TIME-OUT
DEMAND 1
DEMAND 2
60
50
40
30
20
10
0
10
20
30

Fig 2

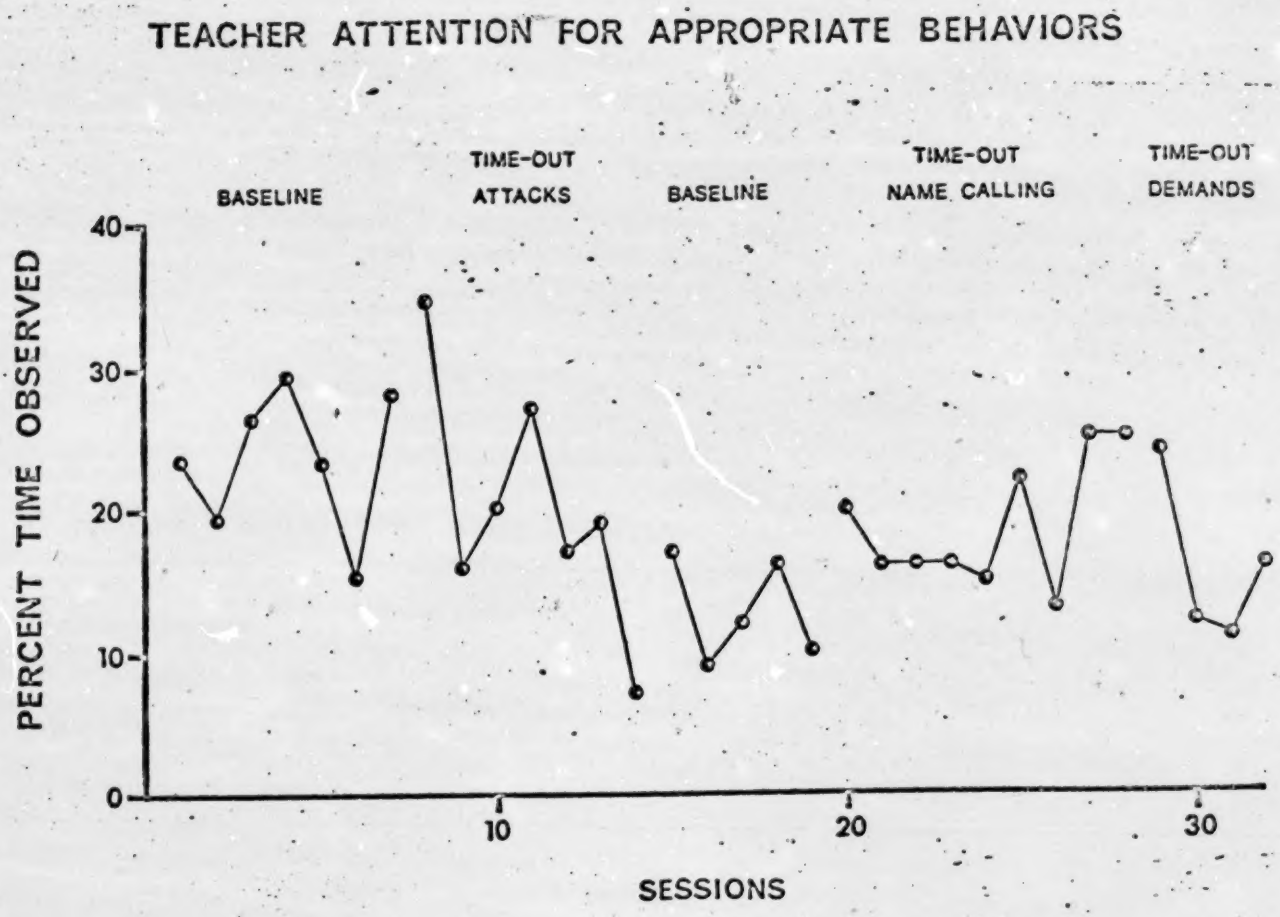
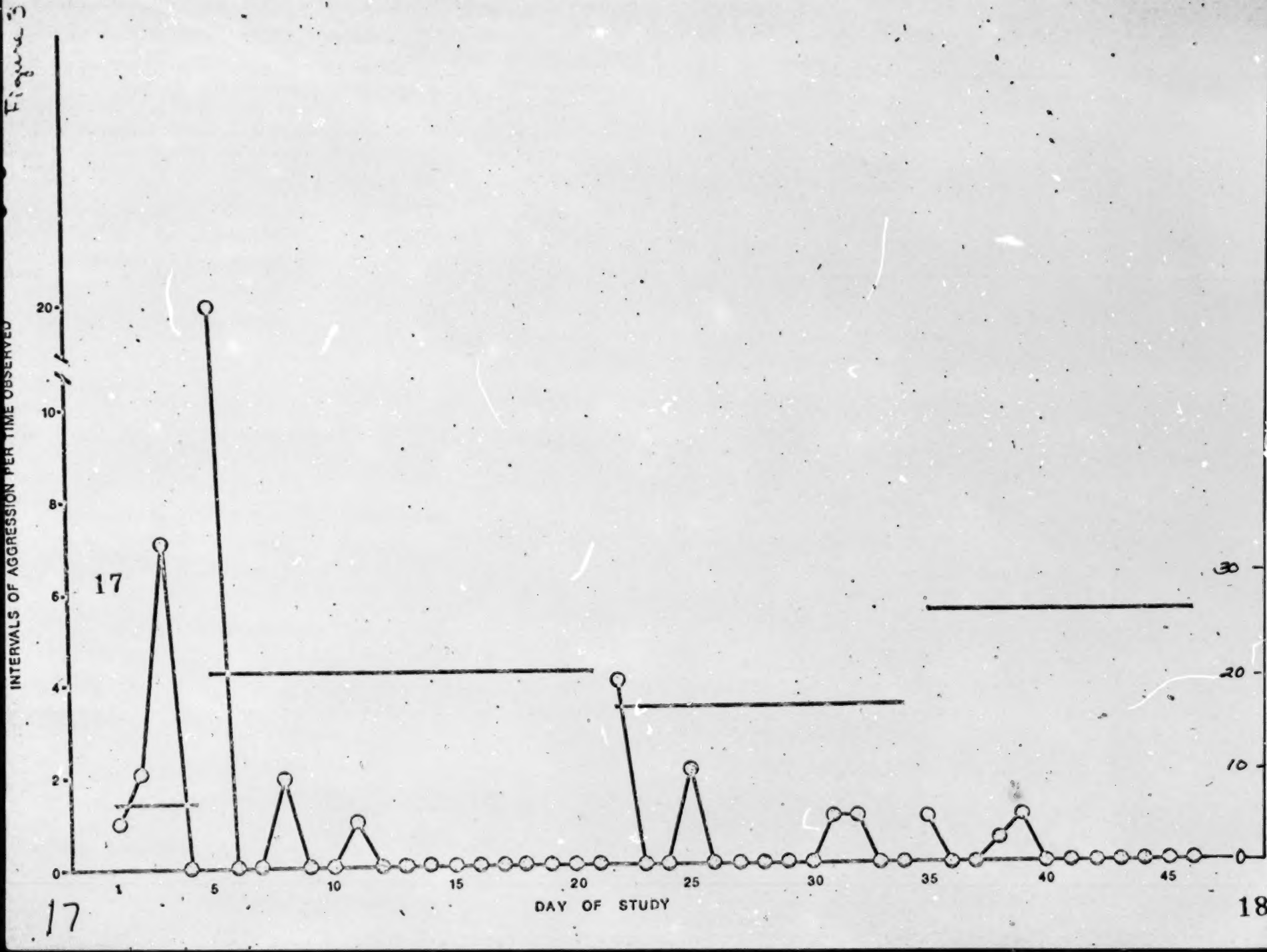
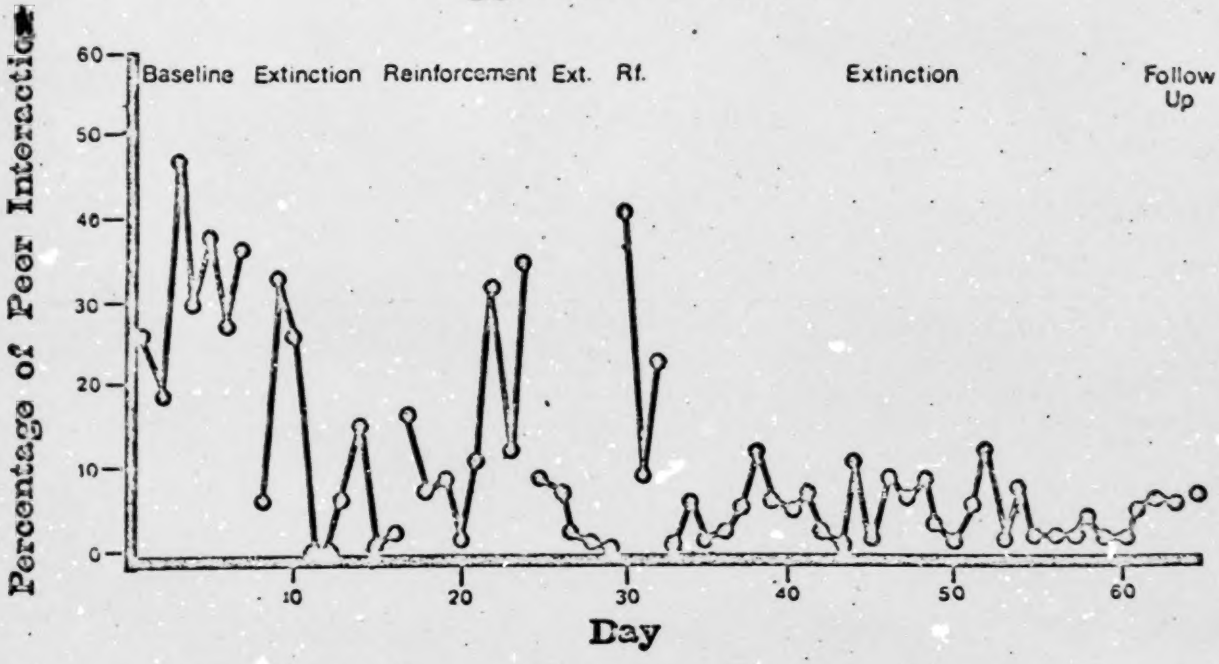

TEACHER ATTENTION FOR APPROPRIATE BEHAVIORS
BASELINE
TIME-OUT ATTACKS
BASELINE
TIME-OUT NAME CALLING
TIME-OUT DEMANDS
PERCENT TIME OBSERVED
40
30
20
10
0
10
20
30
SESSIONS

Figure 3


INTERVALS OF AGGRESSION PER TIME OBSERVED
0
2
4
6
8
10
20
1
5
10
15
20
25
30
35
40
45
DAY OF STUDY
30
20
10
0

17

Aggressive Behavior



Peer Interaction